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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/238,368	01/27/1999	IKUO SUNAGA	MM-99111	6414

7590 12/30/2002

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EXAMINER

NGUYEN, STEVEN H D

ART UNIT	PAPER NUMBER
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2665

DATE MAILED: 12/30/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/238,368

Applicant(s)

SUNAGA ET AL.

Examiner

Steven HD Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-9 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nardin (USP 5317562) in view of Lyons (USP 6075798).

Nardin discloses a method for transferring speech and voice band signals and ISDN (Integrated Services Digital Network) digital signals between an ATM (Asynchronous Transfer Mode) network and an STM (Synchronous Transfer Mode) network, the method comprising the steps of (a) obtaining a silence information by detecting silence sections in input signals entered from the STM network (Fig 2, Ref 156 is VAD for detecting a silence period from a TDM network which read on STM network and includes ISDN such as basic rate "B+D" or primary rate "2B+D", col. 4, lines 60 to col. 5, lines 10) (b) obtaining a signal type information for each input signal by judging whether each input signal is a speech and voice band signal or an ISDN digital signal and further judging a signal type of each input signal that is judged as the speech and voice band signal (Fig 2, Ref 182 and CIP for determining if the type of signal for such as voice or data, if it is a voice signal the input signal is judged to determine if the input signal needs to compress or not; if the voice signal needs to be compressed; the voice signal will be compressed); (c) dynamically changing a compression scheme of each input signal into a most appropriate compression scheme according to the silence information obtained at the step (a)

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and the signal type information obtained at the step (b), and compressing each input signal using the most appropriate compression scheme by length of packet (Fig 2, 158, 156 used for applying a compressing schemes according to the type of signal, See Fig 12 and col. 8, lines 43-62) and (f) receiving input ATM cells from the ATM network and disassembling the input ATM cells into received packets; (g) disassembling the received packets obtained at the step (f) into received signals; (h) judging a signal compression scheme of each received signal obtained at the step (g); (l) expanding each received signal using the signal compression scheme Judged at the step (h); and (j) reproducing silence sections in signals expanded at the step (l) so as to generate STM signals, and transferring the STM signals to the STM network (Fig 2, 150 determines the type of compression for decompression signal and reproducing the silence information for transmitting to telephone network, an ATM interface for receiving/transmitting to ATM network by assembly the payload of ATM cell or disassembly the information signal into ATM cell which has a priority to indicate a type of information in the payload, Fig 2, 150 and col. 4, lines 35-45);

However, Nardin fails to disclose the steps (d) assembling variable length packets each having a length shorter than that of an ATM cell from signals compressed at the step (c) using the silence information obtained at the step (a) and the signal type information obtained at the step (b); (e) assembling ATM cells by multiplexing a plurality of the variable length packets assembled at the step (d), and transferring the ATM cells to the ATM network. However, in the same field of endeavor, Lyons discloses the steps (d) assembling variable length packets each having a length shorter than that of an ATM cell from signals compressed at the step (c) using the silence information obtained at the step (a) and the signal type information obtained at the step (b); (e) assembling ATM cells by multiplexing a plurality of the variable length packets assembled at the

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step (d), and transferring the ATM cells to the ATM network; (Fig 1, 4 and 8-9, the information signals are assembled into a plurality of variable length packets having a length shorter than ATM cell, then multiplexing a plurality of AAL 2 packet into an ATM cell for transmitting to ATM network; See col. 2, lines 10-53, col. 4, lines 14-54 and col. 5, lines 22 to col. 8, lines 47).

Since, Nardin suggests the user of ATM layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply AAL 2 layer which assembling a plurality of variable length packet and multiplexing them into ATM cell as disclosed by Lyons into Nardin's method and apparatus. The motivation would have been to provide an efficient way to transport a plurality of variable length small packets in the ATM network.

3. Claims 5, 10 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nardin and Lyons as applied to claims 1, 7 and 11 above, and further in view of Lyons (USP 6282196).

Nardin does not disclose the claimed invention. However, in the same field of endeavor, Lyons ' 196 discloses an ATM cell transmitting side assembles the variable length packets only from non-silence sections by eliminating silence sections indicated by the silence Information from signals compressed at the step (c), while using a sequence counter with a value ranging from 0 to 7 in headers of the variable length packets such that a value 0 is used for a first packet of each non-silence section, values 1 to 7 are used repeatedly for subsequent packets of each non-silence section, and a sequence counter is reset when a silence section occurs; the step (f) at an ATM cell receiving side receives the input ATM cells containing the received packets that are assembled only from non-silence sections by eliminating silence sections, and the step (g) detects

a sequence counter value in a header of each received packet such that a received packet with the sequence counter value 0 is detected as a first packet of each non-silence section and received packets with the sequence counter values 1 to 7 are detected as subsequent packets of each non-silence section, so as to detect the first packet of each non-silence section as well as an occurrence of a loss of packets and a number of lost packets for each non-silence section when there is a loss of any consecutive packets of each non-silence section between a transmitting side and a receiving side; and when the received packet with the sequence counter value 0 is detected, the step (1) resets an algorithm of the signal compression scheme by taking the received packet with the sequence counter value 0 as the first packet of the non-silence section, so as to enable improvement of a quality of reproduced speech and voice band signals, and when a loss of packet is detected, the step (1) makes a judgment as to whether a lost packet is the first packet of the non-silence section or one of the subsequent packets of the non-silence section, and applies a most appropriate loss compensation scheme according to a result of the judgment (Col. 6, lines 24-30 discloses each AAL2 packet assigned a sequence number such as 0 to 7 wherein 0 is a beginning of voice packet and the counter will be reset when a silent period is detected, col. 9, lines 61 to col. 10, lines 22 and Fig 5 wherein the sequence number is used to detect a loss packet and apply a compensation scheme for loss packet and in the header of AAL2 packet has a field to allow the receiving interface to determine a compression type, See Fig 3).

Since, Nardin suggests the user of ATM layer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply AAL2 packet sequence number for each AAL2 packet and using this sequence to determine a loss packet and coding type field to determine a compression schemes as disclosed by Lyons into Nardin's and

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Lyons' 798 method and apparatus. The motivation would have been to provide an efficient way to transport a plurality of variable length small packets in the ATM network.

Response to Arguments

4. Applicant's arguments filed 10/24/2002 have been fully considered but they are not persuasive.

In response to pages 5-6, the applicant states that Nardin and Lyons fail to disclose a method and apparatus for transmitting a voice or data from STM network to ATM network. In reply, Nardin discloses a method and apparatus for receiving an input signal from time division multiplexing port (See Fig 2-3, Ref 150) which is T1 line "read on STM network" and Judge if the input signal is speech and voice signal or data signal; if it is a voice signal, the system will judge if the voice signal need to be compressed or not; if it needs to be compressed, the voice signal will be compressed by using G.721 standard (See col. 4, lines 21 to col. 5, lines 10). The ATM interface for receiving voice signal or data signal and converting them into cell (See Fig 2, Ref 154 used for converting incoming TDM stream into cells for transmitting via ATM network). Lyons discloses an ATM interface having AAL2 layer for segmenting the received speech and voice signal or data signal from circuit switches or T1 interface "STM network" into a variable length packet for multiplexing into ATM cell and determining if the input signal is speech and voice signal or data signal before compressing and segmenting into mini packets for multiplexing into ATM cells (See Fig 1 and 4; col. 2, lines 49-53, col. 5, lines 22 to col. 7, lines 4 and col. 8, lines 22-47).

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on

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obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Nardin suggests a method and apparatus for transmitting voice or data signal and suppressing silent intervals by inhibiting of transmission of silent cell (See col. 4, lines 60 to col. 5, lines 10). Lyons suggests the use of ALL2 layer of ATM adapter for utilizing the bandwidth for transmitting voice and data signal by segmenting it into mini packet and multiplexing them into ATM cells (See Fig 1 and 4; col. 2, lines 49-53, col. 3, lines 10-16, col. 5, lines 22 to col. 7, lines 4 and col. 8, lines 22-47). Therefore, it would have been obvious to one of ordinary skill art to apply an AAL-2 layer which is used transmitted compressed voice signal as disclosed by Lyons's method and apparatus into Nardin's method and apparatus for converting a compressed voice signal into cells for transmitting via ATM network. The motivation would have been to provide efficient way to transport of small packets over ATM

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network in such a way that allows very small transfer delay across the ATM network and bandwidth efficiency.

The teaching of Nardin and Lyons perform the claimed invention. Therefore, the rejection maintains.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven HD Nguyen whose telephone number is (703) 308-8848. The examiner can normally be reached on 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D Vu can be reached on (703) 308-6602. The fax phone numbers for the

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organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

A handwritten signature in black ink, appearing to read 'Steven HD Nguyen', with a long, sweeping horizontal line extending to the right.

Steven HD Nguyen
Primary Examiner
Art Unit 2665
December 28, 2002